WHAT IS CLAIMED IS:

1. A radial roller bearing, comprising:

an outer ring;

an inner ring; and,

a cylindrical roller interposed between the outer ring and the inner ring,

the outer and inner rings respectively including flange portions formed in the end portions thereof so as to be opposed to the end face of the cylindrical roller,

wherein, in the end face of the cylindrical roller, there is formed a circular-ring-shaped contact portion of the roller end having centers of curvature continuously existing on a circle which lies on a plane parallel to the end face of the cylindrical roller and also the center of the circle is on the rotation axis of the cylindrical roller.

2. A radial roller bearing as set forth in Claim 1, wherein, where the distance from the center of curvature of the contact portion of the roller end to the rotation axis of the cylindrical roller along the radial direction of the cylindrical roller is expressed as ξ and the diameter of the cylindrical roller is expressed as Da, the distance is set that ξ = 0.1Da to 0.4Da.

3. A radial roller bearing as set forth in Claim 2, wherein,

where the distance from the center of curvature of the contact portion of the roller end to the rotation axis of the cylindrical roller along the radial direction of the cylindrical roller is expressed as ξ, the diameter of the cylindrical roller is expressed as Da and the composite roughness of the contact portion between the contact portion of the roller end and the flange portion is expressed as σ, the composite roughness is set that $\sigma \leq -10.4\ (\xi/Da)^2 + 2.2\ (\xi/Da) + 0.9$.

4. A radial roller bearing as set forth in Claim 2, wherein, where the radius of curvature of the contact portion of the roller end is expressed as η and the diameter of the cylindrical roller is expressed as Da, the radius of curvature is set that η = 2.0Da to 20.0Da.

5. A radial roller bearing as set forth in Claim 3, wherein, where the radius of curvature of the contact portion of the roller end is expressed as η and the diameter of the cylindrical roller is expressed as Da, the radius of curvature is set that η = 2.0Da to 20.0Da.